Cookbook of Activities for Driver Education

MT CURRICULUM GUIDE M 9
Objective: Inertia and directional forces

INGREDIENTS
For each group of 3-4 students:

Marble(s) and/or model car
Paper plate or "Steering Wheel"

INSTRUCTIONS
Divide students into groups of 3-4.
Give each group of students a paper plate/steering wheel and a marble(s) and/or model car.

Part 1
Have the students roll the marble/model car inside the paper plate/ steering wheel by tipping the paper plate/steering wheel forward and backward.
Where does the marble/model car roll?

Part 2
Roll the marble/model car in the paper plate/steering wheel again the same as above. Once the marble/model car is rolling in the plate/ wheel, lift one side of the paper plate/steering wheel slightly higher to increase its speed.
Where does the marble/model car roll?

Repeat.

Note the location of the marble/model car when the plate/steering wheel is lifted.
What is the path of the marble/model car when the plate/steering wheel is lifted?

MT CURRICULUM GUIDE M 9
Objective: Vehicle Balance and Loading

INGREDIENTS
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For each group of 3-4 students:

Model cars
- Small car
- Large car
- SUV type car

Bolt(s)
Rubber band
Steering Wheel
Traction for Action incline sheet

Pencil and Paper for recording information

INSTRUCTIONS
Part 1
Hold the steering wheel against the Traction for Action chart.
Take one of the three cars and roll it through the curve.
Starting at 15, slowly move up the scale, rolling the vehicle through the curve until the car "crashes" off the wheel.

Repeat with the other cars for both right and left curve.
What happened? Record answers.

Part 2
Repeat Part 1, adding a bolt to top of each car (simulates added luggage and/or passengers) using the rubber band to hold it in place.
Repeat so both right and left curves are made.
What happened? Record answers.

Part 3
Repeat Part 2, with the added weight centered on the right, then on the left, performing both a right and left curve.

Part 4
Repeat Part 2, without the rubber band.
What happened? Record answers.